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Staff Education: Nutrition Education in the Intellectually /Developmentally Disabled Community

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Staff Education: Nutrition in the
Intellectually/Developmentally Disabled
Community
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Clinical Leadership Theme

This project focuses on the CNL curriculum element of Inter-professional Collaboration. The CNL role function is Educator. As the CNL I will be one of three team members educating para-professional staff employed in the Intellectual/Developmental Disability (IDD) community caring for clients residing in community homes.

Statement of the Problem

People with IDD have a greater incidence of obesity than those in the general population. With a higher incidence of obesity comes a higher rate of type 2 diabetes, cardiovascular disease, and metabolic syndrome. Type 2 diabetes, cardiovascular disease, and metabolic syndrome are also more prevalent in the IDD community than the general population for a variety of reasons. The first line treatment for obesity is diet modification and exercise. This project focuses on nutrition education for para-professional staff working with IDD clients residing in community living arrangements. Currently the menu plan has fallen into disuse. The clients are eating food high in fat, sugar, and carbohydrates. The meals often consist of frozen dinners, frozen breakfasts, hot dogs, chips, and diet soda. Few, if any, fresh fruit or vegetables are made available to the clients. Para-professional direct care staff is responsible for shopping and meal preparation. This project aims to introduce staff to the new menu and educate them on basic nutrition principles to achieve staff buy-in for the new menu.

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Rationale

In Spring of 2013, while generating data for meaningful use, it was discovered that the rate of obesity among clients utilizing the on-campus medical practice was 44 percent. In order to verify this figure I collected additional data on all consumers residing in the community: height, weight, BMI, abdominal circumference, and weight on admission to community living residences. Results indicate support data for the 44 per cent obesity rate. A search of the literature corroborated this figure was in line with current research in IDD populations (de Winter, Magilson, van Alfen, Willemsen, & Evenhuis, 2010; de Winter, Bastiaanse, Hilgenkamp, Evenweiss & Etcheld, 2011). Severe obesity has also been related to a 5- to 20-year lifespan reduction (Grondhuis & Aman, 2014).

The organization charges direct care staff with shopping and meal preparation. Staff determines the meals served. The staff receives nutrition education during their first week at new employee orientation; nutrition is never addressed again. If they work in a home where a special diet is ordered; diabetic, chopped, pureed, or red, green, yellow (specific to Prader-Willi populations); they are trained to prepare a specialized diet for that specific syndrome only. The medical rationale behind the food selections is never explained and staff doesn't consider the medical aspect of nutrition important.

The average cost of employee education is currently \$1208.00 per person (Miller, 2014). At my practicum site, 5 days per year are devoted to employee training, with an associated cost of \$240.00 per day. The educational component of the nutrition project will require 2 hours at a

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cost of \$60.00 per employee. By performing staff education, I save my institution \$7,700.00 in nurse educator salary. The cost associated with training 24 employees is \$1440.00 which still leaves the institution a \$6260.00 profit. If I take into account the average medical cost of obesity at \$1449.00 (CDC, 2015) per person for 132 clients the savings per annum would amount to \$191,268.00.

In the first year of the project the savings may conservatively amount to \$197,528.00. This includes the cost of employee education. The figure does not include the cost of lost productivity by the clients which would be in addition to the above savings. More importantly, there is the added benefit of healthier clients. In this aging population, decreasing obesity helps to keep the clients ambulatory, allowing them more freedom and the ability to age in place. The IDD population has a larger than average proportion of population with gait disturbances at an early age and the need for a wheelchair sometimes forces them into healthcare facilities. By reducing obesity we help to maintain their mobility and keep them in the community longer.

Literature Review

A PICO search was used to find relevant articles: P- Intellectually Developmentally Disabled, para-professional staff, I- staff education, client education, train-the-trainer C- obesity, nutrition, O- staff training, and intervention.

Nutrition and weight status are among the goals of Healthy People 2020: “Promote health and reduce chronic disease risk through the consumption of healthful diets and achievement and maintenance of healthy body weights” (U.S. Office of Disease Prevention and Health Promotion,

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2014). The objectives are, among others, to increase the proportion of adults who are at a healthy weight and decrease the proportion of adults who are obese. Targeted objectives also include an increase in fruits and vegetables in our diets, and reduced consumption of fat and sugar, to reduce sodium and increase calcium (U.S. Office of Disease Prevention and Health Promotion, 2014).

In her 2013 article, Hilda Mulrooney gives us an overview of obesity in the IDD population. The incidence of obesity is higher in IDD populations than in the general population, as is the incidence of hypertension, cardiovascular disease, and type2 diabetes (Mulrooney, 2014). The IDD population is capable of weight loss, and providers have a duty to support clients with effective weight management (Mulrooney, 2014). There are many reasons for the higher incidence of obesity in IDD communities. Genetic conditions, behavioral issues, use of atypical antipsychotics and/or tricyclic antidepressants, and capacity to make choices, all combine to increase the incidence of obesity (Mulrooney, 2014). Social factors also contribute to the problem. The clients may not receive needed support from providers. A large proportion of the IDD community resides in community living arrangements. Clients live with 3 or 4 other people in a home that is staffed 24 hours by direct care staff, adding more complexity to delivery of nutrition. (Mulrooney, 2014). Some clients may use food as a coping mechanism (Mulrooney, 2014), and some staff may use food to control client behavior.

In the IDD community, weight control requires balance. By decreasing energy consumption, and increasing energy expended, weight is controlled (Mulrooney, 2014). Weight goals, whether loss, gain, or maintenance must be prescribed by the clients' primary care

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provider on an individual, case-by-case basis (Mulrooney, 2014). Once weight goals are determined, outcomes should be measured bi-weekly. Outcomes should include both weight and waist circumference, so that interventions occur in a timely manner. Family members and staff should be trained in awareness of health benefits of the intervention, so they can better support the clients' healthy choices. (Mulrooney, 2014). To ensure support, changes may need to begin at the institutional level (Mulrooney, 2014). This article supports my research on many levels: it describes the necessity of the intervention, contributing factors, and necessity for change.

In a study of nursing interventions for adults with IDD, health education, weight management, and nutrition are the top three interventions (Hahn, 2014). A nursing intervention is “any treatment, based upon clinical judgement and knowledge that a nurse performs to enhance patient/client outcomes” (Bulechek, Butcher, Dochterman, & Wagner, 2013, as quoted in Hahn, 2014). Hahn, (2014), reviews the health disparities facing clients with IDD which makes them less likely to receive screening and health promotion interventions, to develop under-recognized or under treated conditions, and to encounter unprepared health providers. IDD clients are more likely to have complex health issues, multi-morbidity, and dependence on others. Obesity and sedentary lifestyle are listed as one of the top health risk factors for adults with developmental disability (Hahn, 2014). Supporting healthy eating and weight management is necessary to prevent chronic diseases. (Hahn, 2014). This article addresses the health disparities facing the IDD community and highlights how common the problem is.

Staff turnover at our facility is currently 65 percent. US studies have found similar rates of 50 to 70 per cent annually (McKenzie & Paxton, 2004). Direct care workers do difficult work

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with little support which contributes to poor retention, turnover, and difficulty recruiting (HCPro.com, 2015). The need for direct care staff outpaces growth in the field due to low wages, low social standing, and lack of support on the job (HCPro.com, 2015). Between 2012 and 2022 the projected population growth of the labor pool for direct care workers (women age 25-54) is less than one percent. High turnover rates lead to quality lapses, low morale, and a disproportionately high financial burden associated with continually recruiting and training staff (HCPro.com, 2015). High turnover rates prevent the development of meaningful relationships between staff and clients (HCPro.com, 2015). Direct care is physically and emotionally demanding. There are few opportunities for promotion, and wages are low (HCPro.com, 2015). Staff turnover significantly impacts factors into my research because it creates a huge burden of time and expense. Staff turnover directly affects client nutrition. The staff and client do not have the opportunity to form a caring relationship; it's more of a babysitting job for staff who just wants to feed the clients as quickly and easily as they can.

Several suggestions are offered to increase retention, but the most relevant to this discussion are to include all staff in key decision making processes, stop top-down announcements and implementation of initiatives that affect all staff, and practice consistent assignments, allowing direct care staff and clients the opportunity to develop relationships (HCPro.com, 2014). The problem of staff retention also creates a need for brief training that provides core skills and concepts to staff and delineates clear expectations regarding job requirements (McKenzie & Paxton, 2004).

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A teaching method often utilized when training direct care staff for IDD clients is the Train the Trainer (TTT) method. TTT requires initial mastery of the intervention by the supervisor who then trains direct care staff, who, in turn, implements the intervention with the clients (Shire & Kasari, 2014). TTT literature points out that many clients, in particular those who are higher functioning, benefit from TTT interventions across many domains (Shire & Kasari, 2014). TTT methods will be employed in the staff education and then later employed with clients who live independently.

Another article supporting TTT methods by Marks, Sisirak, & Chang (2014), states that TTT has been used worldwide with lay healthcare workers and is documented as an effective method when working with underserved populations (Marks, Sisirak, & Chang, 2013). TTT workshops are based on the Transtheoretical Model of Behavior Change and on Bandura's Social Cognitive Theory (Marks, Sisirak, & Chang, 2013). The authors discuss some of the issues facing community based organizations (CBO). As the clients age, direct care staff roles are expanding to include health related activities. There are three difficulties with this expansion: direct care staff do not value health promotion or disease prevention for clients, they don't think health related issues are part of their job description, and they often lack the knowledge necessary to deliver health and wellness information to the clients (Marks, Sisirak, & Chang, 2014). However, staff training on health and wellness for their clients, done correctly, will potentially focus direct care staff attention on health promotion and preventive care. The authors also remind the reader that developing effective training models that give staff the skill to implement health promotion for adults with IDD is "imperative" (Marks, Sisirak, & Chang, 2014). The articles supporting

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TTT as an effective method are relevant because my staff education plan was developed as a TTT program, the method the staff is most familiar with. TTT is the most used method in IDD staff education.

Methodology

As part of an ongoing project, management of Metabolic Syndrome (MetS) in a developmentally disabled population, the need for basic nutrition education for staff has been identified. Many direct care staff have emigrated from Africa and are unfamiliar with local food. This results in poor dietary outcomes for the consumers who frequently eat pre-packaged food (frozen dinners, frozen breakfasts, no fresh fruits or vegetables).

Through staff and consumer education we plan to implement a heart healthy diet for consumers. A recent analysis of consumers who utilize the medical practice on campus revealed that 44 per cent of consumers are overweight, a number that is mid-range for IDD consumers (de Winter, Magilson, van Alfen, Willemsen, & Evenhuis, 2010; de Winter, Bastiaanse, Hilgenkamp, Evenweiss & Etcheld, 2011).

The project will initially result in an increase in budgetary expense necessary to meet the need for fresh food. Once we have a more realistic budget that incorporates the components of a healthy diet, I expect to see a decrease in hypertension, type II diabetes, cardiovascular disease, stroke and metabolic syndrome among the IDD population. These diagnoses are increasing in incidence because the population is aging for the first time and we need to learn to manage an aging IDD population. The reduced disease incidence will decrease health care costs in PCP visits, medication, ER visits, and hospitalizations.

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In her book *Nurse as Educator: Principles of Teaching and Learning*, Susan Bastable (2014) explains the difference between barriers to teaching and obstacles to learning. In the IDD community there are many obstacles to teaching and learning. In addition to developmental disabilities this includes: poorly educated staff, staff who speak English as a second language, client behaviors, and financial constraints affecting time and food budget. By identifying potential obstacles, as well as known obstacles, we plan to develop direct, brief methods of conveying necessary information to staff and clients.

The institutional goals are social rather than medical: “Maximizing potential through personal commitment, collective talents and innovation, -- supports individuals with diverse challenges in shaping distinctive, meaningful lives. Through partnerships with families, communities and government, -- will be the provider of choice for people with diverse challenges (employer website).” Also from the website:

- Integrity, respect and commitment should be the basis of our relationships.
- Personal accomplishments are an integral part of a meaningful life.
- The whole of society is better for the inclusion of all of its citizens.
- Each of us has something to offer and we can gain from the process of giving.

“Our work emphasizes the strengths of each individual and we strive to insure that all people we serve find hope, motivation, opportunities and success (employer website).” This project meets the goal of supporting clients in leading a meaningful life; improving health allows consumers to attend workshops, work, and social functions, and at the core of good health is good nutrition. Our consumers are living longer than ever before. Good nutrition now will lead to better health

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in the future as well as the ability to age in place and to retain mobility. Health and mobility are necessary in any population, but in this population it's critical (Studenski, Perera, Patel, Rosano, Faulkner, Inzitari.....Guralnik, 2011.)

As longevity increases in the IDD population, so does the incidence of obesity (deWinter, Bastiaanse, Hilgenkamp, Evenhuis, & Etcheld, 2011). Overweight and obese adults with ID have an increased risk of poor diet quality and their physical activity level is low (Hilgenkamp, Reis, VanWijck, & Evenhuis, 2012; Ptomey, Goetz, Lee, Donnelly, Sullivan, 2013). By implementing a heart healthy diet and a physical activity plan our goal is to decrease the incidence of obesity in the IDD population we serve (Studenski et al., 2011).

My project concerns staff education regarding a heart healthy diet to a cohort of clients and staff in the Intellectually/Developmentally disabled (IDD) community. The cohort represents the spectrum of disability, from profound to mild, verbal to non-verbal. Much of my teaching will be directed toward staff. Clients are included in teaching when applicable.

Clients reside in community homes with 24-hour staff supervision. The clients eat meals with staff, using family dining style. By teaching the staff to prepare and eat healthy food, and to encourage healthy choices, the staff will teach the clients through a combination of social learning, modeling, verbal cueing, arranging the environment, gesturing, and physical assistance (Gardner & Chapman.)

Clients with less severe IDD are very self-aware and they have the potential to make good choices when the choices are presented correctly. By incorporating methods to increase feelings of self-worth and self-determination I expect to increase learning in this group, many of

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whom are acutely aware of their functional level. For this group of learners, a visual accomplishment reward generates intense positive feelings of self-worth which encourages further compliance (Dominica, 2012).

All of my clients have experienced learning through social theory, which “emphasizes the role of interpersonal relations involving imitation and modeling” (Bradshaw & Goldbart, 2013). Responses to environment and conditions are constantly evaluated and manipulated to change client behavior. This type of learning is employed daily at home, in workshops, and in social settings. All clients have a behavior support plan in place which is designed, through varying degrees of classical and operant conditioning, to modify a previously learned behavior, from refusing medical appointments to refusing meals. It can be used to change self-stimulatory behavior (Edelson, n.d.) from head banging to finger rubbing.

Planning methods for teaching adult IDD clients and staff require some explanation, as they are governed by their own set of rules and objectives. When a learning need is determined, service agencies schedule evaluations with the team (Gardner & Chapman, 1993.) A team meeting is held and the result of the evaluation is shared with the team to determine the services necessary to meet client goals (Gardner & Chapman, 1993.)

A team meeting is an opportunity to improve interdisciplinary communication, but there can be barriers to effective communication (Gardner & Chapman, 1993.) Professional terminology, “turf-tending,” not having clear role definition among team members, appointing team leaders rather than a chairperson, reading reports during the meeting, and the attitudes of team members can all impede communication (Gardner & Chapman, 1993). Effective team

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meetings start with the sharing of information and data (Gardner & Chapman, 1993). Every team member needs to evaluate the information received with a comprehensive view of the client as well as through the context of their profession (Gardner & Chapman, 1993).

In the early planning stages, a goal statement is developed to identify priorities and to clearly define the expected shared outcome (Gardner & Chapman, 1993). Next, behavioral objectives are written. Behavioral objectives are the steps necessary to reach a goal. There are three components of a behavioral objective: a written statement of the desired behavior, a written statement of conditions (who, what, when, where, why), and a written statement of criterion (Gardner & Chapman, 1993). The criterion statement identifies the measurement to define goal achievement (Gardner & Chapman, 1993). Criterion statements define speed, accuracy, duration, and quantity or frequency (Gardner & Chapman, 1993).

Once goals and objectives are defined the instructional strategy is developed. Teaching should occur in the setting where it will be used (Gardner & Chapman, 1993). Complex behavior needs to be reduced to simple steps and methods of instruction determined. The five most common methods are verbal cueing, modeling, arranging the environment, gesturing, and physical assistance (Gardner & Chapman, 1993). These methods are considered “error-free”: they ensure that the learner responds correctly and that learning is positive (Gardner & Chapman, 1993).

In order to measure effectiveness of teaching pre and post-tests will be given to the staff. By comparing the two I can see what they’ve learned. There were several criteria requested regarding the training from administration. First, that it be as brief as possible without losing

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content. Second, that it be made as simple as possible for later use with clients living independently in the community. Keeping the training brief and simple also makes it easily replicable, which is a necessity with our high staff turnover rate.

The teaching is planned as follows

1. Pre-test
2. Distribute and review menus
3. Reading the menu
4. Determining calorie counts
5. Using the alternate menu
6. Shopping tips
7. A review of common vegetables and fruit due to the large population of foreign workers who do not recognize produce available locally
8. Safe food handling
9. How to follow a recipe
10. How to use measuring cups and spoons
11. Plating the food and portion control
12. Cooking videos
13. Special diets: diabetic, chopped, pureed, and using nutritional additives
14. The importance of drinking 64oz of fluid daily
15. Questions
16. Post-test

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Staff compliance with the diet will be evaluated with a weekly review of receipts from food shopping by the site manager. The menus for each week have a list and staff who are shopping will only be permitted to purchase items on the list. During visits to the house a supervisor can tell by the day of the week what food items still remain in the house which is another way to evaluate compliance. All clients will have weights and waist circumference documented before the menu is implemented and every two weeks after. This is done to ensure that the clients don't gain or lose more than 5 per cent of their body weight, which requires a physician visit.

Timeline

Planning for this project began in earnest in November of 2014. The teaching portion is due to begin November 9, 2016. Please see the GANTT chart in Appendix F. A great deal of time and effort was expended by the 7 members of the nutrition committee. Making changes in an institution of this size is challenging and could only be accomplished by a dedicated group. The project was researched and planned for carefully with input from many different departments, and there were many moving pieces that needed to come together.

Expected Results

Initially, I expect a great deal of resistance from staff. They are learning to apply new information to client care and are resistant to change. Staff will tolerate the teaching portion, the difficulty lies in the implementation and enforcement of the "new" policy, which is actually the unenforced current policy.

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Each instance of staff failing to comply with the menu will be noted in the staff communication log. Re-education will occur after the third instance of non-compliance. This policy has the full support of Administration which gives the policy some weight in implementation and enforcement.

I expect staff to require more than one two hour in-service, as there is a great deal to master for those for whom English is a second language and for staff who don't know how to cook. The committee has already begun to gather internet videos that clearly demonstrate simple cooking techniques with the intent of putting them all on the house computers for easy reference.

Summary Report

The aim of the nutrition initiative was to educate para-professional staff regarding the planned nutrition initiative. The staff educated included direct care staff, house managers, program specialists, and program directors. The director of the division and the three associate directors attended the in-service but were not included in testing since it's not required at their level. Those participating in the staff education are employed by an institution charged with caring for Intellectually/Developmentally Disabled children and adults. Adult residential clients living in community homes are the target population of the nutritional education project.

The driving force behind the nutrition project was data generated incidentally as part of meaningful use data generated by the on-campus medical practice. The data revealed that 44% utilizing that practice were obese. This far exceeds the level of obesity in the general population, however it is supported by the literature regarding obesity in IDD populations, (de Winter,

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Magilson, van Alfen, Willemsen, & Evenhuis, 2010; de Winter, Bastiaanse, Hilgenkamp, Evenweiss & Etcheld, 2011), and by independent assessment of admission weight, height, current weight, BMI, and waist circumference of all clients supported by residential services.

We utilized teaching material supplied by staff development to meet their objectives. Nutrition is taught during New Employee Orientation (NEO) only. This was the first time staff was re-exposed to the teaching material since NEO. In place of the food pyramid we used the MyPlate.gov (Appendix K) plate graphic as it is replacing the food pyramid and gives a better indication of proportions used in every day dining. We also incorporated Cycle 1 Monday menu (Appendix M) for use as a descriptive aid when discussing portion control. Staff was also given a Safe Minimum Internal Temperature Chart (Appendix P) and a copy of the letter to be included with all Annual Physical Exams to the provider listing all available diet combinations as well as a contact number to discuss exceptions if deemed necessary by the provider (Appendix N).

The education was conducted by Nursing (me), a Nutritionist, and a Program Director, all of whom were part of the development committee for this project. The education took place during a two hour in-service conducted in two different sessions to accommodate staff schedules. Prior to beginning the in-service the staff was requested to take a pre-test to determine pre-education level of understanding. At the conclusion of the in-service staff were given the post-test which was exactly the same as the pre-test. This is done consistently at our institution and staff is most familiar with this method of testing. Staff was also tested separately on food safety, as required by staff development and regulations (Appendix O).

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The morning session had a class size of twenty-five. Fourteen participants (66%) completed the pre-test (Appendix J) and twenty-one participants (100%) completed the post-test (Appendix J). The numerical difference is due to late arrivals (7) and exempt staff (4). In the pre-test group of fourteen the low score was 50 and the high score was 100. The mean score was 82.85, the median score was 90. In the post-test group the low score was 50 and the high score was 100. The mean score was 83.71 and the median score was 100. In this group, after the post-test, three participants are required to retake the exam and achieve a score of 80 or better, per staff development guidelines.

The afternoon session had a class size of twenty-one. Fourteen participants (56%) completed the pretest and sixteen participants (64%) completed the post-test. The numerical difference in this group is due to late arrivals (2), exempt staff (3), and staff non-compliance (2). In the pre-test group the low score was 60 and the high score 100. The mean score was 80 and the median score was 80. In the post-test group the median score was 82.5 and the median score was 80. In this group, after the post-test, four participants are required to retake the exam and achieve a score of 80 or better, per staff development guidelines.

The results of the test scores were combined and can be viewed in Appendix H page 28, and Appendix G page 27. Confounding variables include question 1, which was discovered to offer incomplete answer options, after the morning session, and corrected for the afternoon session. 50% of pre-test participants answered incorrectly, while 27% of the post-test participants answered incorrectly. Another confounding variable was question 8 to which two presenters

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gave two different answers. 54% of the pre-test participants answered question 8 incorrectly and 29% of the post-test participants answered incorrectly.

Appendix G is an analysis of answers by question pre- and post-test. As discussed above, questions 1 and question 8 are confounding variables. Question 6, one serving of pasta is equal to (1/2 cup), is the most frequently incorrectly answered question in pre- and post-test answers and is easily identified as an area of teaching improvement needed in the next in-service. Question 9, we should limit our salt intake to less than 2400 mg each day (false), is another identified area of needed teaching improvement. Questions 2, 4, and 7 are answered incorrectly in the post-test only at 2%, 5%, and 2% and while statistically insignificant should still be re-emphasized. Question 10, following a client's diet is just as important as administering a medication (true), was the only question answered 100% correctly in both pre- and post-tests.

After each staff education session tests are graded and teaching re-evaluated based on the number of incorrect answers, until we reach several test cycles where a score of 80 or better is received on all post-tests on the first attempt. While the team was directed to keep the education brief to contain costs, the teaching needs revision until an 80% comprehension rate is achieved by direct care staff. Once the 80% mark is achieved the in-service should be re-evaluated before each use for the inclusion of new material and to address any issues that have developed over the course of the project. At the end of January 2016 the nutrition project will be rolled out system wide. Class sizes will be kept at 25 or less for a more intimate learning experience. The in-service can also be done on-site when needed in houses having difficulty in execution of the nutrition project during scheduled staff meeting time.

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The project is self-sustaining in that it is becoming policy. The education will be filmed once the team agrees that the presentation is as fine-tuned as we can make it. The committee continues meeting weekly as we work out the kinks and interpret the data for evidence of effectiveness. Weekly weights and waist circumferences are being tracked by nursing for the next six months. Nurses are in the best position to interpret weights and waist circumferences and will be the first to be aware of rapid changes in either, which is undesirable. In this manner nursing can intervene quickly and make corrections. The benefits of adopting a healthy diet are well-established and we have encountered very little staff resistance to the initiative.

In March of 2016 the initiative will be presented to clients who live independently in the community with minimal or no staff support. These clients do their own food-shopping and budgeting and will require more staff support to adopt the new menu. Staff working with these clients need a thorough understanding of the material taught so that they are able to explain necessity and reasoning behind the initiative to the clients.

Nursing Relevance

IDD clients are an underserved population. They rely on society to care for them and to meet their needs. The combined prevalence of overweight and obesity in this population is 64% (Marks, Sisirak, & Chang, 2012). While IDD clients live in our community, they have limited or absent access to community based health promotion and interventions (Marks, Sisirak, & Chang, 2012). Nurses are uniquely placed to identify and correct inequities in underserved populations:

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they can intercede at the client or staff level, but they can also promote the needs of the community on an organizational and even national level.

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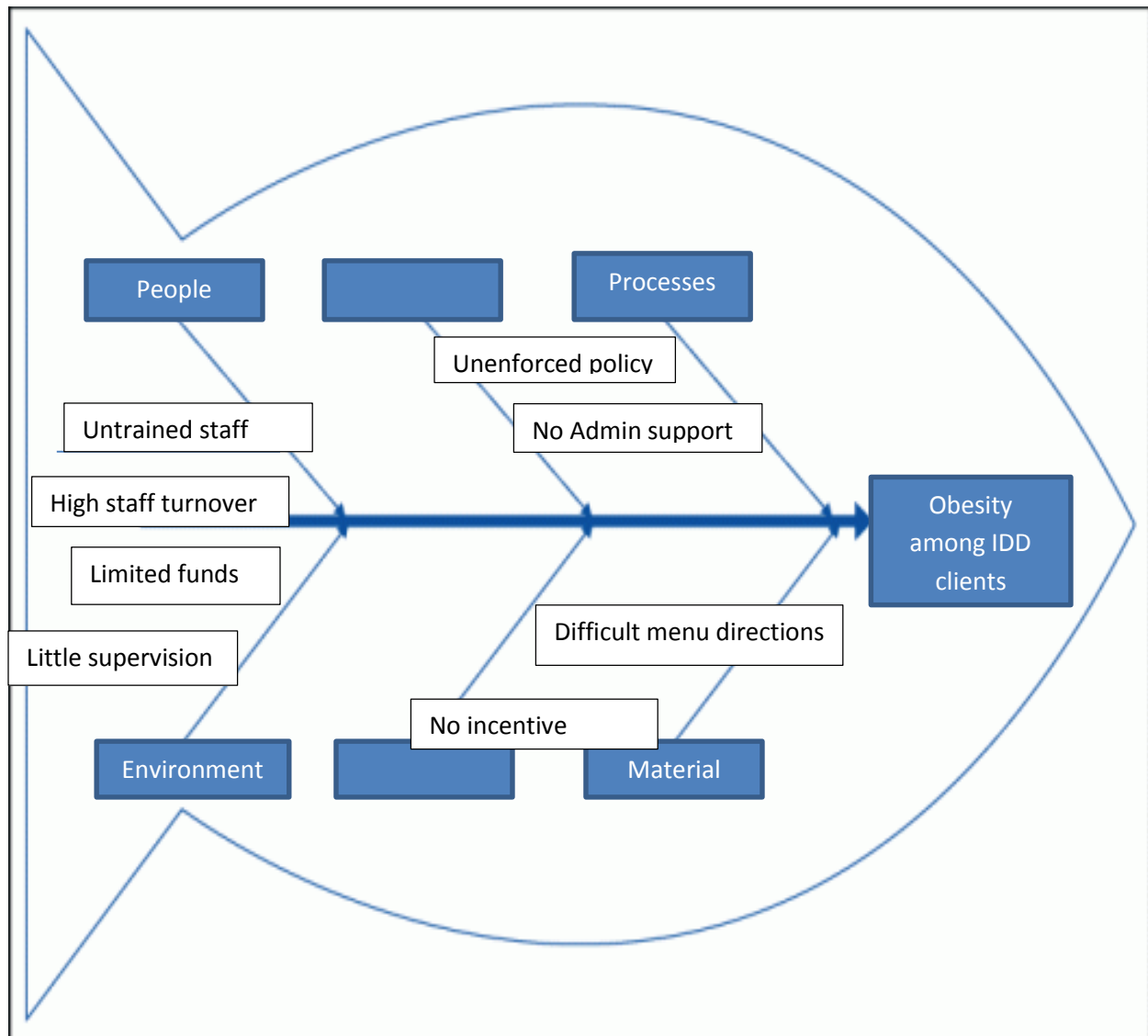
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Appendix A

Root Cause Analysis

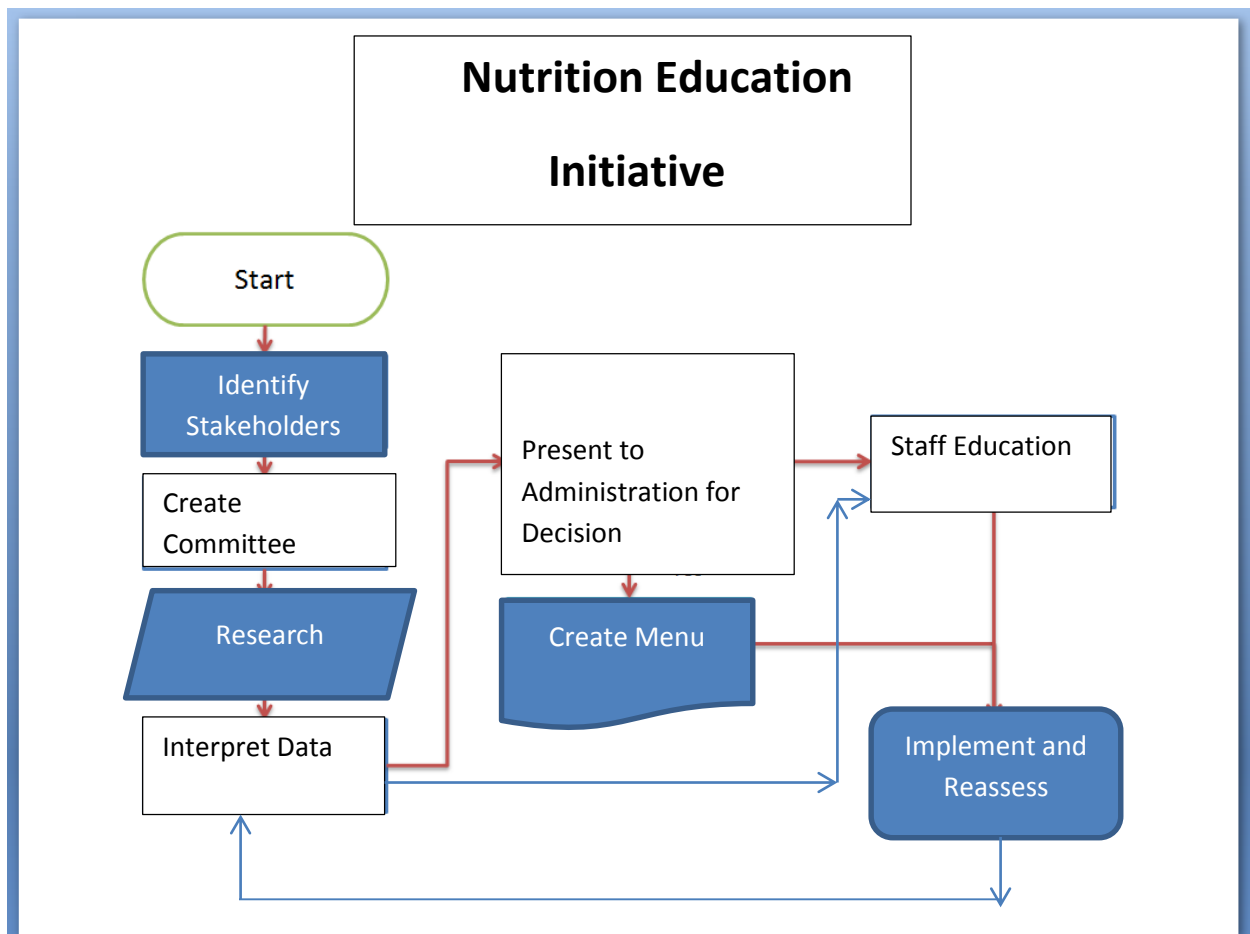
Fishbone



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Appendix B

Process Map



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Appendix C

SWOT Analysis: Nutrition Initiative

Policy already in place, no policy changes

Decreased incidence of obesity, metabolic syndrome, cardiovascular disease

Evidence based intervention

Administration support

Healthy eating

Increased intake of fruits and vegetables

High staff turnover

Untrained staff

Success requires staff buy in

Staff resistance

Client resistance

Limited alternate menu choices

Positively impact client outcomes

Increased client mobility

Increased ability to age in place

Equitable

May improve staff diet

Reduced costs associated with obesity

Union complaints or grievances

DPW push back

Family cooperation for home visits

Will require more staff training and incur additional costs beyond those addressed in the prospectus

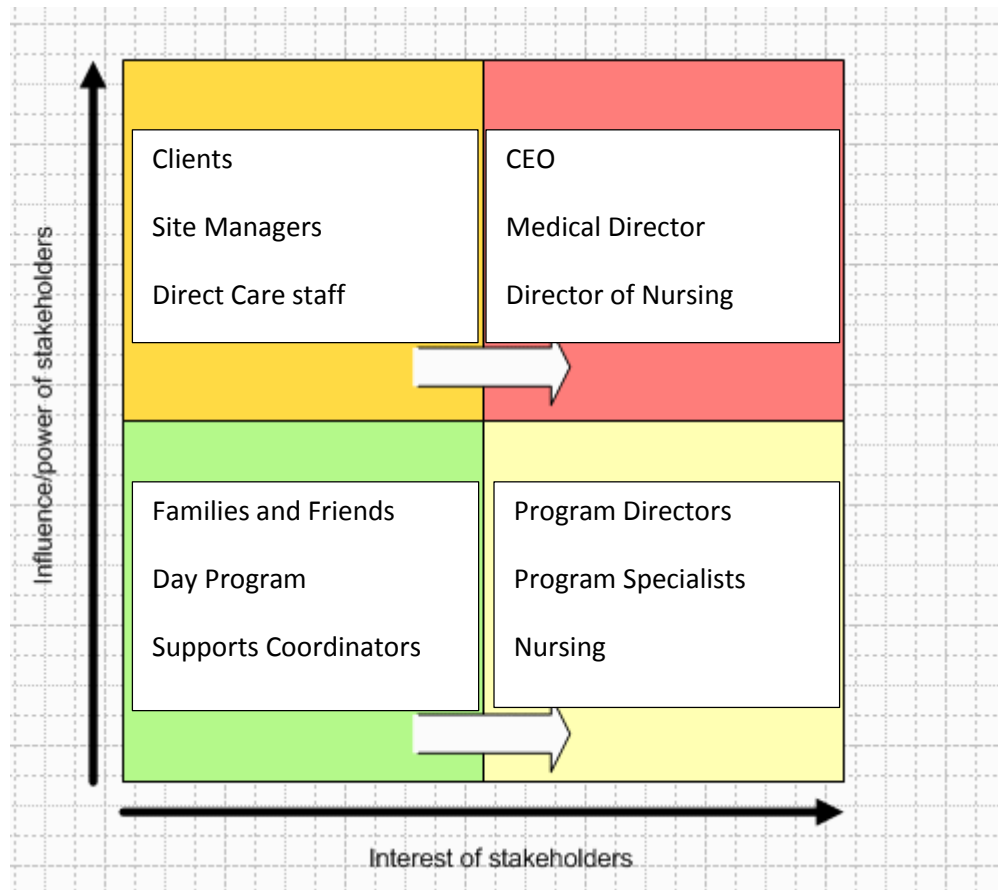
STAFF EDUCATION: NUTRITION IN THE IDD COMMUNITY**SWOT Analysis: Subject**

		Positive	Negative
Internal		Strengths	Weaknesses
External		Opportunities	Threats

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Stakeholder Analysis

Appendix D



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Appendix E

Cost Analysis

The average cost of employee education is \$1208.00 per person (Miller, 2014.) At my practicum site, 5 days per year are used for employee training, which broken down is \$240.00 per day. The educational component of the nutrition project will take 2 hours at a cost of \$60.00 per employee.

220 hours x 35.00/hr. = \$7700 RN PRN cost

The focus of my project has shifted to staff education in managing client obesity and the new diet. By performing staff education, I save my institution \$7,700.00 in nurse educator salary. The cost of education per employee hour is \$30.00 and the education takes 2 hours. For 24 employees the cost is \$1440.00 which still leaves the institution ahead \$6260.00.

If I take into account the average medical cost of obesity at \$1449.00 (CDC, 2015) per person for 132 clients the savings per annum would amount to \$191,268.00.

In the first year of the project the savings may conservatively amount to \$197,528.00. This includes the cost of employee education. The figure does not include the cost of lost productivity by the clients which would be in addition to the above savings.

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Appendix F

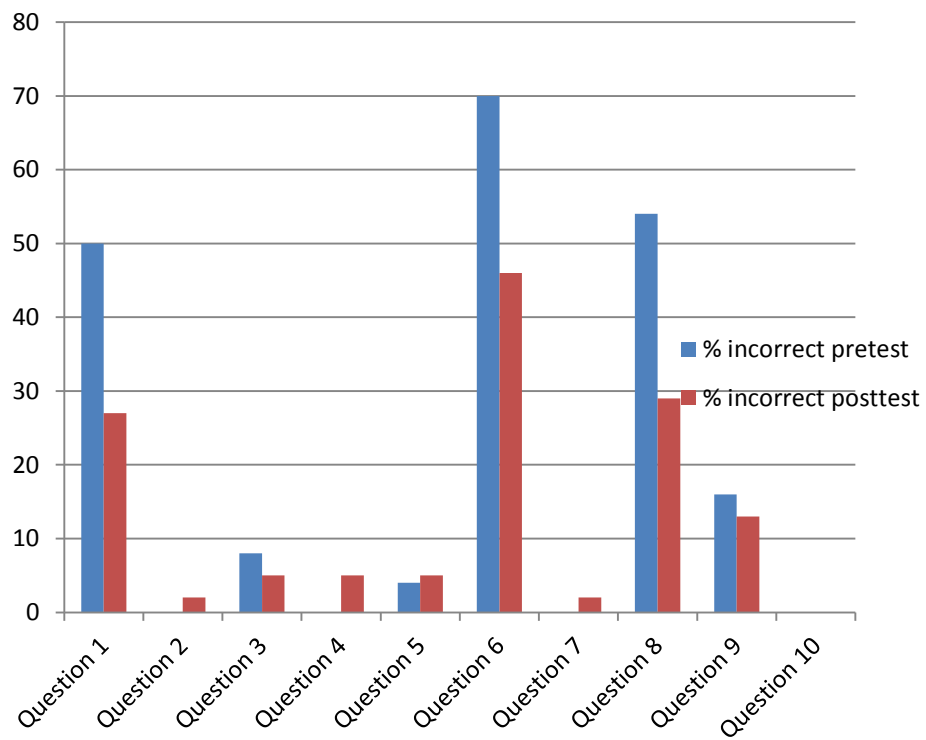
GANTT Chart

Remaining Tasks

Task	April	May	June	July	August	September	October	Nov	Dec
In-service									
Roll out									
1 st weight									
2 nd Weight									
Review									
Assess									
Surveys									

STAFF EDUCATION: NUTRITION IN THE IDD COMMUNITY**Appendix G**

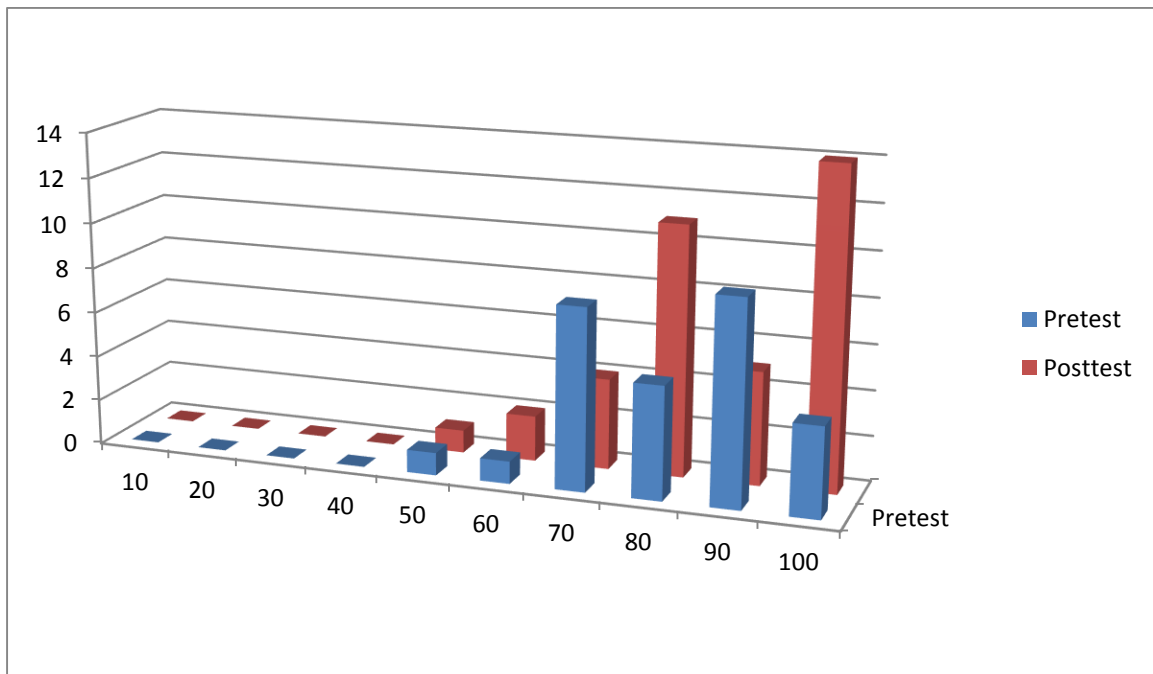
Comparison between pre and post test questions answered incorrectly by percentage



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Appendix H

Comparison between pre and post test scores



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Appendix J

Name _____ Date _____

Post test

1. For what medical condition would a low fat/low cholesterol diet be used?
 A. Type 1 Diabetes C. Type 2 Diabetes
 B. High cholesterol e. High Blood Pressure
 C. All of the above
2. Timed meals are important for individuals with diabetes mellitus.
 A. True B. False
3. Consequences of weight gain and obesity may include:
 A. High Cholesterol C. Type 2 Diabetes
 B. High Blood Pressure D. All of the above
4. Individuals on low fat/low cholesterol diets should receive skim milk instead of whole milk.
 A. True B. False
5. Prepackaged, Frozen, and Canned Foods are high in sodium.
 A. True B. False
6. One serving of pasta is equal to:
 A. 1/4 cup C. 1 cup
 B. 1/2 cup D. 1 1/2 cup
7. We should have 2-4 servings of fruit each day.
 A. True B. False
8. How many 8-ounce glasses of a non-caffeinated beverages should be consumed each day?
 A. 4 C. 8
 B. 6 D. 12
9. We should limit our salt intake to less than 2400 mg each day.
 A. True B. False
10. Following a client's diet is just as important as administering a medication.
 A. True B. False

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Appendix K



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Appendix M

CYCLE 1									
MONDAY		HOUSE TEXTURE		PORTION SIZES			Purée Ground		
Calorie Level	1200	1500	1800	STANDARD 2000 cals	2400	DOUBLE 3000	Entrée	Follow guideline for preparation of ground/purée foods	
BREAKFAST									
100% juice	4 oz	4 oz	4 oz	8 oz	8 oz	8 oz			
Waffle	1	1	2	2	2	4			slurry
Margarine	1 tsp	1 tsp	1 tsp	2 tsp	2 tsp	4 tsp			
Light Syrup	1 oz	1 oz	2oz	2 oz	3 oz	4 oz			
1 c low-fat milk	8 oz skim	8 oz skim	8 oz	8 oz	8 oz whole	8 oz whole			
Water	8 oz	8 oz	8 oz	8 oz	8 oz	8 oz			
Coffee/Tea	8 oz	8 oz	8 oz	8 oz	8 oz	8 oz			
Fresh fruit OR ½ c canned fruit	Fresh fruit OR ½ c canned fruit	Fresh fruit OR ½ c canned fruit	Fresh fruit OR ½ c canned fruit	Fresh fruit OR ½ c canned fruit	Fresh fruit OR ½ c canned fruit	Fresh fruit OR ½ c canned fruit			
Whole wheat bread	1 Deli bun***	1 Deli bun***	2 sl	2 sl	2 sl	4 sl			
LF mayo	2 tsp	2 tsp	1 TBS	1 TBS	1 TBS	2 TBS			
Tuna Salad	2 oz	2 oz	3 oz	3 oz	4 oz	6 oz			
Potato chips (LF baked)	1 oz	1 oz	1 oz	1 oz	1 oz	2 oz			Mashed potato
Low Fat pudding	4 oz SF FF	6 oz SF FF	6 oz FF	8 oz FF	8 oz	8 oz			smooth
Water	10 oz	10 oz	10 oz	10 oz	10 oz	10 oz			
Beef a Koni	1 cup	1 cup	1 ½ cup	2 cup	2 ½ cup	4 cups			Purée ground beef, mashed Potato
Green beans	1 cup	1 cup	1 cup	1 cup	1 cup	2 cups			
Margarine	0	0	1 tsp	1 tsp	1 tsp	2 tsp			
Strawberry delight	½ cup SF FF	½ cup SF FF	1 cup	1 cup	1 cup	1 cup			
low-fat milk	8 oz skim	8 oz skim	8 oz	8 oz	8 oz whole	8 oz whole			
Water	8 oz	8 oz	8 oz	8 oz	8 oz	8 oz			
Coffee/Tea	8 oz	8 oz	8 oz	8 oz	8 oz	8 oz			
Night Snack	*****	*****	*****	*****	Plus ½ sandwich	Plus Whole sandwich			

PLEASE NOTE: Water for Lunch is provided at Day Program ***** NIGHT Snack: Please allow clients to choose 1 of the following: AND 4 oz Juice
 *Decafinated coffee/tea can be provided as desired:
 as can 1-2 T of artificial sweetener or sugar
 *****Deli Bun or reduced calorie bread
 LF= Low Fat SF Sugar free

 Please refer to recipes for all food items. *****

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Appendix N

Dear Provider,

The following is a list of all possible diets available to the clients. Please choose one. If you wish to order a diet not on this menu you must first discuss the necessity with the client's Nurse Case Manager, who will then contact the nutritionist.

Thank You,
Claire Davalos RN
~~616-299-0139~~

~~DIET~~ DIET ORDER GUIDELINE

Diets are described by texture (speech) then nutrition/diet portion

Food Textures

Regular
Soft to Chew
Mechanical soft
Ground
Puree
Smooth Puree

Liquid Textures

Thin liquids
Nectar thick
Honey thick

Diets

House: 2000 calories low in fat and cholesterol and high in fiber, no added salt
Double portions: for non-verbal clients who can't ask for seconds or clients who need to gain weight. The entrée is doubled. It is approximately 3000 calories.
Extra portions: Client may have extra portions as desired
No concentrated sweets: for diabetic clients and weight reduction
High Protein: for low protein labs and wound healing
High Calorie: added margarine, creamers, whole milk, extra syrup
1200 calorie: low fat, and sugar free products for diabetes and weight reduction
1500 calorie: low fat, and sugar free products for diabetes and weight reduction
1800 calorie Diabetic: sugar free products
2000 calorie Diabetic: sugar free products
2400 calorie Diabetic: sugar free products
Low fiber/Low residue
High Fiber
Gluten Free
Lactose Free: NO: Milk, cheese, yogurt, butter, ice cream, cream soup, alfredo or cheese sauce, 2 gram sodium
Low Potassium: usually severe renal restriction
NPO: nothing by mouth
Clear liquids: usually bowel prep short term order.

***Lactaid milk can be added to any diet order instead of lactose free diet

STAFF EDUCATION: NUTRITION IN THE IDD COMMUNITY**Appendix O**

Name _____

Date _____

1. Cans with dents are just as safe, germ-wise, as cans without dents?
True or False
2. Raw meats that have juices dripping from them should be placed in plastic bags?
True or False
3. Cold items should be picked up last when grocery shopping so that they can stay cool until you get home.
True or False
4. Refrigerated and frozen foods should be put away last?
True or False
5. Plastic cutting boards are better to use than wood cutting boards?
True or False
6. It is okay to place foods out on the counter all day to thaw.
True or False
7. Leftovers should be labeled (dated).
True or False
8. 155 Degrees Fahrenheit is the minimum safe internal temperature for fish to be cooked at.
True or False
9. Ground beef should be cooked to 160 Degrees Fahrenheit.
True or False
10. When stuffing meats, stuffing and meat should be cooked separately first.
True or False

STAFF EDUCATION: NUTRITION IN THE IDD COMMUNITY

Appendix P

Safe Minimum Internal Temperature Chart

Safe steps in food handling, cooking, and storage are essential in preventing foodborne illness. You can't see, smell, or taste harmful bacteria that may cause illness. In every step of food preparation, follow the four guidelines to keep food safe:

- **Clean**—Wash hands and surfaces often.
- **Separate**—Separate raw meat from other foods.
- **Cook**—Cook to the right temperature.
- **Chill**—Refrigerate food promptly.

Cook all food to these minimum internal temperatures as measured with a food thermometer before removing food from the heat source. For reasons of personal preference, consumers may choose to cook food to higher temperatures.

Product	Minimum Internal Temperature & Rest Time
Beef, Pork, Veal & Lamb Steaks, chops, roasts	145 °F (62.8 °C) and allow to rest for at least 3 minutes
Ground meats	160 °F (71.1 °C)
Ham , fresh or smoked (uncooked)	145 °F (62.8 °C) and allow to rest for at least 3 minutes
Fully Cooked Ham (to reheat)	Reheat cooked hams packaged in USDA-inspected plants to 140 °F (60 °C) and all others to 165 °F (73.9 °C).

Product	Minimum Internal Temperature
All Poultry (breasts, whole bird, legs, thighs, and wings, ground poultry, and stuffing)	165 °F (73.9 °C)
Eggs	160 °F (71.1 °C)
Fish & Shellfish	145 °F (62.8 °C)
Leftovers	165 °F (73.9 °C)
Casseroles	165 °F (73.9 °C)

Last Modified Jan 15, 2015